Enhanced Graphics Features for Computer Assisted Surgery System

Abstract of Disclosure

A computer assisted surgery system with is enhanced graphics features is described for assisting a surgeon in orthopaedic procedures. A system is described for use in inserting multiple guide pins in hip fracture surgery using a single bore drill guide that has a graphical representation comprising its real trajectory and one or more virtual trajectories, the virtual trajectories representing potential positions of other guide pins to be placed during the procedure. Additionally, representations of inserted guide pins and virtual trajectories may be retained on the display at their inserted positions for use in aligning subsequent guide pins. A system is also described for orientation of an acetabular cup in a total hip replacement surgery. During cup insertion, the surgeon is provided with information regarding the orientation of the cup with respect to a pelvic reference frame that is based on accepted pelvic landmarks. The positions of each landmark is calculated by the system when a probe with a virtual tip, separate from its physical tip, is overlaid on the landmark in roughly orthogonal images of the pelvis.

Figures